Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. - 5. (Cancelled)

6. (New) A method of producing a membrane-electrode assembly for fuel cell comprising:

a first step of spreading a first coating compound comprising a first catalyst and a resin having hydrogenionic conductivity over a substrate to form a first layer;

a second step of spreading a second coating compound comprising a resin having hydrogenionic conductivity over said first layer to form a second layer; and

a third step of spreading a third coating compound comprising a second catalyst, a resin having hydrogenionic conductivity and a solvent over said second layer before drying of said second layer to form a third layer and prepare a laminate comprising said first layer, said second layer and said third layer,

wherein said solvent contains an organic solvent having a boiling point of 120°C or more at 1 atm in a proportion of 40% by weight or more; and

90% or more of the drying step of drying said laminate is effected at a temperature of from 60°C to 80°C.

7. (New) A method of producing a membrane-electrode assembly for fuel cell comprising:

a first step of spreading a first coating compound comprising a first catalyst and a resin having hydrogenionic conductivity over a substrate to form a first layer;

a second step of spreading a second coating compound comprising a resin having hydrogenionic conductivity over said first layer to form a second layer; and

a third step of spreading a third coating compound comprising a second catalyst, a resin having hydrogenionic conductivity and a solvent over said second layer before drying of said second layer to form a third layer and prepare a laminate comprising said first layer, said second layer and said third layer,

wherein said solvent contains an organic solvent having a saturated vapor pressure of 1.06 kPa (8 mmHg) or less at 20°C in a proportion of 40% by weight or more; and

90% or more of the drying step of drying said laminate is effected at a temperature of from 60°C to 80°C.

8. (New) A method of producing a membrane-electrode assembly for fuel cell of Claim 7, wherein said solvent contains an organic solvent having a saturated vapor pressure of 0.20 kPa (1.5 mmHg) or less at 20°C.

9. (New) A method of producing a membrane-electrode assembly for fuel cell of any one of Claims 6 to 8, wherein said organic solvent contains a compound represented by the following general formula (A):

$R_1 - O - (R_2O)_n - H$ (A)

wherein R_1 is one functional group selected from CH_3, C_2H_5, C_3H_7 and C_4H_9;

R_2 is one functional group selected from C_2H_4 and C_3H_6; and

n is one integer selected from 1, 2 and 3.

10. (New) A membrane-electrode assembly for fuel cell comprising:

a first step of spreading a first coating compound comprising a first catalyst and a resin having hydrogenionic conductivity over a substrate to form a first layer;

a second step of spreading a second coating compound comprising a resin having hydrogenionic conductivity over said first layer to form a second layer; and

a third step of spreading a third coating compound comprising a second catalyst, a resin having hydrogenionic conductivity and a solvent over said second layer to form a third layer and prepare a laminate comprising said first layer, said second layer and said third layer,

wherein said second coating compound contains a gelatinizing agent.

11. (New) A method of producing a membrane-electrode assembly for fuel cell of Claim 10, wherein said gelatinizing agent is a temperature-sensitive gelatinizing agent.

12. (New) A method of producing a membrane-electrode assembly for fuel cell of Claim 10 or 11, wherein said second coating compound contains said gelatinizing agent in a proportion of 33% by weight or less.

13. (New) A method of producing a membrane-electrode assembly for fuel cell of any one of Claims 6, 7 and 10, wherein said second compound contains a thickening agent in a proportion of 33% by weight or less.

14. (New) A method of producing a membrane-electrode assembly for fuel cell of any one of Claims 6, 7 and 10, wherein the viscosity η_1 of said second coating compound at a temperature of 25°C and a shear rate of 1 s^{-1} and the viscosity η_2 of said third coating compound at a temperature of 25°C and a shear rate of 1 s^{-1} satisfy the following relationship:

$1/25 \leq \eta_1/\eta_2 \leq 25$

wherein η_1 and η_2 each are greater than 0.

15. (New) A method of producing a membrane-electrode assembly for fuel cell of Claim 14, wherein said η_1 and said η_2 satisfy the relationship $\eta_1 > \eta_2$.

16. (New) A method of producing a membrane-electrode assembly for fuel cell of any one of Claims 6, 7 and 10, wherein said second catalyst is a solid material having a noble metal

supported thereon; and said third coating compound is a coating compound obtained by a step comprising kneading said second catalyst and a first solvent which is at least one component of said solvent with the proportion of said second catalyst being 20% by weight or more.

17. (New) A method of producing a membrane-electrode assembly for fuel cell of Claim 16, wherein said first solvent is a solvent having the highest affinity for said catalyst among said solvent components.

18. (New) A method of producing a membrane-electrode assembly for fuel cell of any one of Claims 6, 7 and 10, wherein said first step, said second step and said third step are sequentially effected while said substrate is being continuously carried.

19. (New) A polymer electrolyte type fuel cell comprising a membrane-electrode assembly for fuel cell produced by a method of producing a membrane-electrode assembly for fuel cell of any one of Claims 6, 7 and 10 and a separator through which a reactive gas is supplied into said membrane-electrode assembly for fuel cell.

20. (New) A polymer electrolyte coating compound for fuel cell comprising a resin having hydrogenionic conductivity, a second solvent capable of dissolving said resin therein and a gelatinizing agent.

21. (New) A polymer electrolyte coating compound for fuel cell of Claim 20, wherein said gelatinizing agent is a temperature-sensitive gelatinizing agent.

22. (New) A polymer electrolyte coating compound for fuel cell of Claim 20 or 21, wherein said gelatinizing agent is incorporated in a proportion of 33% by weight or less.

23. (New) A membrane-electrode assembly for fuel cell comprising a pair of catalyst layers laminated on each other with a polymer electrolyte layer having hydrogenionic conductivity interposed therebetween, wherein said polymer electrolyte layer is porous.

24. (New) A polymer electrolyte type fuel cell comprising a membrane-electrode assembly for fuel cell of Claim 23 and a separator through which a reactive gas is supplied into said membrane-electrode assembly for fuel cell.

25. (New) A method of producing a membrane-electrode assembly for fuel cell comprising:

a first catalyst layer forming step of spreading a first coating compound over a running substrate to form a first catalyst layer;

an electrolyte forming step of spreading a second coating compound over said first catalyst layer while said first catalyst layer is wet to form an electrolyte layer;

a drying step of drying said electrolyte layer such that the thickness of said electrolyte layer kept in wet state reaches a predetermined value; and

a second catalyst layer forming step of spreading a third coating compound over said dried electrolyte layer to form a second catalyst layer, wherein said first catalyst layer and said second catalyst layer are a hydrogen electrode and an oxygen electrode, respectively, or an oxygen electrode and a hydrogen electrode, respectively.

26. (New) The method of producing a membrane-electrode assembly for fuel cell as described in Claim 25, wherein said drying step is effected at a drying temperature of from not lower than 20°C to not higher than 150°C.

27. (New) The method of producing a membrane-electrode assembly for fuel cell as described in Claim 26, wherein said drying step is effected with the distance between the outlet of hot air and said electrolyte layer falling within the range of from not smaller than 10 mm to not greater than 500 mm.

28. (New) The method of producing a membrane-electrode assembly for fuel cell as described in Claim 27, wherein said drying step is effected with the hot air flow rate at a position of 10 mm from said outlet of hot air falling within the range of from not smaller than 1 m per second to not greater than 20 m per second.

29. (New) An apparatus of producing a membrane-electrode assembly for fuel cell comprising:

a first catalyst layer forming unit of spreading a first coating compound over a running substrate to form a first catalyst layer;

an electrolyte forming unit of spreading a second coating compound over said first catalyst layer thus formed while said first catalyst layer is wet to form an electrolyte layer;

a drying unit of drying said electrolyte layer such that the thickness of said electrolyte layer kept in wet state reaches a predetermined value; and

a second catalyst layer forming unit of spreading a third coating compound over said dried electrolyte layer to form a second catalyst layer,

wherein said first catalyst layer and said second catalyst layer are a hydrogen electrode and an oxygen electrode, respectively, or an oxygen electrode and a hydrogen electrode, respectively.

30. (New) A membrane-electrode assembly for fuel cell comprising:

a hydrogen electrode;

an electrolyte layer formed on said hydrogen electrode; and

an oxygen electrode formed on said electrolyte layer,

wherein said oxygen electrode has a larger area in contact with said electrolyte layer than said hydrogen electrode.